

IN THE CLAIMS

Current Listing Of Claims:

1.-12. (Cancelled)

13. (Currently Amended) An electroless plating structure on a metal-six copper (M6 Cu) pad, having a composition comprising:

$pM_w sM_x B_y P_z$

wherein pM is a primary metal selected from at least one of Cu, Ag, Au, ~~Co~~, Pd, Pt, Ni, Rh, and Ir;

wherein sM is a secondary metal selected from zero to at least one of Cr, Mo, W, Mn, Tc, and Re;

wherein B and P represent boron and phosphorus, respectively; and

wherein w has a range from about 0.5 to about 0.99, x has a range from about 0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from ~~about~~ 0.0 to about 0.02.

14. (currently amended) The electroless plating structure according to claim 13, further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: Cu_wMB, Cu_wMBP, Cu_wMCrB, Cu_wMCrBP, Cu_wMMoB, Cu_wMMoBP, Cu_wMWB, Cu_wMWBP, Cu_wMMnB, Cu_wMMnBP, Cu_wMTcB, Cu_wMTcBP, Cu_wMReB, Cu_wMReBP, Cu_wMNiB, Cu_wMNiBP, Cu_wMNiCrB, Cu_wMNiCrBP, Cu_wMNiMoB, Cu_wMNiMoBP, Cu_wMNiWB, Cu_wMNiWBP, Cu_wMNiMnB, Cu_wMNiMnBP, Cu_wMNiTcB, Cu_wMNiTcBP, Cu_wMNiReB, and Cu_wMNiReBP.

15. (currently amended) The electroless plating structure according to claim 14, wherein $pMCu$ is substituted or accompanied by comprises at least one of Cu, Ag and Au.

16. (currently amended) The electroless plating structure according to claim 13,
further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: Ni_pMB , Ni_pMBP , Ni_pMCrB , Ni_pMCrBP , Ni_pMMoB , Ni_pMMoBP , Ni_pMWB , Ni_pMWBP , Ni_pMMnB , Ni_pMMnBP , Ni_pMTcB , Ni_pMTcBP , Ni_pMReB , Ni_pMReBP , $NiCeB$, $NiCeBP$, $NiCeCrB$, $NiCeCrBP$, $NiCeMoB$, $NiCeMoBP$, $NiCeWB$, $NiCeWBP$, $NiCeMnB$, $NiCeMnBP$, $NiCeTeB$, $NiCeTeBP$, $NiCeReB$, and $NiCeReBP$.

17. (currently amended) The electroless plating structure according to claim 16, wherein pM_Ni is substituted or accompanied by comprises at least one of Ni, Pd and Pt.

18. (currently amended) The electroless plating structure according to claim 13,
further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: CoB , $CoBP$, Co_pMCrB , $CoCrBP$, $CoMoB$, $CoMoBP$, $CoWB$, $CoWBP$, Co_pMMnB , $CoMnBP$, Co_pMTcB , $CoTeBP$, Co_pMReB , $CoReBP$, $NiCo_pMB$, $CoPdBP$, $Co_pMPdCrB$, $CoPdCrBP$, $Co_pMPdMoB$, $CoPdMoBP$, Co_pMPdWB , $CoPdWBP$, $Co_pMPdMnB$, $CoPdMnBP$, $Co_pMPdTcB$, $CoPdTcBP$, Co and p MPdReB, and $CoPdReBP$.

19. (currently amended) The electroless plating structure according to claim 18, wherein ~~pMCo~~ is substituted or accompanied by comprises at least one of Co, Rh and Ir.

20. (currently amended) The electroless plating structure according to claim 13, wherein the primary metal is a metal combination selected from cobalt-nickel, cobalt-nickel-silver, cobalt-nickel-silver-copper, cobalt-silver, cobalt-silver-copper, cobalt-copper, cobalt-copper-nickel, nickel-silver, nickel-silver-copper, nickel-copper, and silver-copper.

21. (original) The electroless plating structure according to claim 13, wherein the primary metal is selected from MP, MB, MPB, MW, MWP, MWBP, MNiP, MNiWP, MReP, MReBP, and wherein M is a metal combination selected from cobalt-nickel, cobalt-nickel-silver, cobalt-nickel-silver-copper, cobalt-silver, cobalt-silver-copper, cobalt-copper, cobalt-copper-nickel, nickel-silver, nickel-silver-copper, nickel-copper, and silver-copper.

22. (New) The electroless plating structure according to claim 13, wherein the composition of $pM_w sM_x B_y P_z$ is selected from the group consisting of: CoRhB, CoIrB, CoRhIrB, CoRhMoB, CoIrMoB, CoRhIrMoB, CoRhWB, CoIrWB, and CoRhIrWB.

23. (New) An electroless plating structure on a conductive pad, having a composition comprising:

$pM_w sM_x B_y P_z$

wherein pM is a primary metal selected from at least one of Cu, Ag, Au, Co,

Pd, Pt, Ni, Rh, and Ir;

wherein sM is a secondary metal selected from zero to at least one of Cr, Mo,

W, Mn, Tc, and Re;

wherein B and P represent boron and phosphorus, respectively; and

wherein w has a range from about 0.5 to about 0.99, x has a range from about

0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from a

value approaching but not equal to 0.0 to about 0.02.

24. (new) The electroless plating structure according to claim 23, wherein the composition of $pM_w sM_x B_y P_z$ is selected from the group consisting of: pMBP, pMCrBP, pMMoBP, pMWBP, pMMnBP, pMTcBP, pMReBP, pMPdBP, pMPdCrBP, pMPdMoBP, pMPdWBP, pMPdMnBP, pMPdTcBP, and pMPdReBP.

25. (new) The electroless plating structure according to claim 24, wherein pM comprises at least one of Co, Rh and Ir.

26. (New) An electroless plating structure on a conductive pad, having a composition comprising:

$Co_w sM_x B_y P_z$

wherein sM is a secondary metal selected from zero to at least one of Cu, Ag,

Au, Pd, Pt, Ni, Rh, Ir, Cr, Mn, and Tc;

wherein Co, B and P represent cobalt, boron and phosphorus, respectively;

and

wherein w has a range from about 0.5 to about 0.99, x has a range from about 0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from a value approaching but not equal to 0.0 to about 0.02.

27. (new) The electroless plating structure of claim 26 wherein the composition of $Co_w sM_x B_y P_z$ is selected from the group consisting of: sMCoB, sMCoBP, sMCoCrB, sMCoCrBP, sMCoMoB, sMCoMoBP, sMCoWB, sMCoWBP, sMCoMnB, sMCoMnBP, sMCoTcB, sMCoTcBP, sMCoReB, and sMCoReBP.

28. (new) The electroless plating structure according to claim 27, wherein sM comprises at least one of Ni, Pd and Pt.